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IN THE SPECIFICATION:

Please replace paragraph 0011 on page 3 with the following paragraph:

The invention is a circuit card stripline Fast Faraday cup system for measuring the structure of a charged particle beam that includes a first groundplane; a first dielectric bonded to the first groundplane; a conductor bonded to the first dielectric wherein a portion of the conductor is used as the beam target; a second dielectric bonded to the conductor by means of a bonding dielectric, the bonding dielectric having the same dielectric constant as the first dielectric; a second groundplane (initial groundplane) bonded to the second dielectric, the second dielectric and the second groundplane having a channel for the unimpeded passage of the beam to the beam target; a high bandwidth digitizer connected to the conductor, the high bandwidth digitizer electrodynamically matched to the conductor and the beam target; and electroplated stitching of the first groundplane to the second groundplane to prevent the occurrence of a resonance condition between the first and second groundplanes.

Please replace paragraph 0018 on page 4 with the following paragraph:

FIG. 1 illustrates front and cross-section views of a preferred two-connector embodiment of the invention. In FIG. 1, the Fast Faraday cup 15 is designed in a four-layer stripline circuit card configuration that comprises a bottom ground layer (first groundplane) 16, a dielectric layer 17, a trace 18, a portion of which (24) is the actual cup or beam target, another dielectric layer 19, and a top ground layer (initial groundplane) 20. The two grounds 16, 20 surround the circuit card. These grounds shield the target 24 and trace 18 from the harsh electrodynamic environment, and also reduce the noise of the charged particle beam 23 while guiding the induced signal on the trace. The device is fabricated with two edge launch connectors 21, 22 that are broadband matched to the circuit card and are used for retrieving the signal. If it is desired to use only one of the connectors, the unused end of the trace 18 can be terminated in the transmission line impedance of, for example, 50 ohms. In FIG. 1, the

dimension D is the diameter of the hole for the beam to strike the target 24. The dimension H1 is chosen for the energy and/or speed of the charged particle beam 23. The dimension H2 and the choice of dielectric constant are chosen to have a convenient sized-thickness circuit board that fits standard high frequency connectors.